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February 27, 2003

Mary L. Cottrell, Secretary
Department of Telecommunications and Energy
One South Station, 2nd Floor
Boston, MA 02110

RE: Cambridge Electric Light Company d/b/a/ NSTAR Electric, D.T.E. 03-15

Dear Ms. Cottrell:

Enclosed please find the Annual Service Quality Report (the "SQ Report") for Cambridge Electric Light Company d/b/a/ NSTAR Electric Company ("Cambridge Electric" or the "Company"). The SQ Report sets forth the Company's performance results for the year ending December 31, 2002, under the service quality plan (the "SQ Plan") that was approved for the Company by the Department of Telecommunications and Energy (the "Department") on December 5, 2001.

In 2002, the Company's overall performance on the established service-quality measures resulted in a net offset position. NSTAR Electric looks forward to continued success in 2003.

Should you have any questions or need additional information, please do not hesitate to contact me. Any communications should also be directed to:

Robert J. Keegan
Cheryl M. Kimball
Keegan, Werlin & Pabian, LLP
21 Custom House Street
Boston, MA 02110
TEL: (617) 951-1400

Thank you for your time and attention to this matter.

Sincerely,

Mark Reed

DTE 03-15

Cambridge Electric Light Company

Annual Service Quality Report

SECTION ONE

Year Ending December 31, 2002

DTE FORM - B



FORM B (Electric Companies)

Cambridge Electric Light Company

28-Feb-03

PENALTY PROVISIONS	Years in Database	Mean and Benchmark	Performance in 2002	Comments
Telephone Answering Factor (%)	5	64.68% (+/- 4.29%)	80.24%	Telephone statistic based on Calls Handled within 30 Seconds.
Emergency Answering (%)	NA	NA	85.94%	Tracking emergency calls started in 2002.
Non-Emergency Answering (%)	NA	NA	78.82%	Tracking non-emergency calls started in 2002.
Service Appointments Kept (%)	0	NA	100.00%	Tracking service appointments started in 2002.
Meter Reads (%)	5	98.57% (+/- 0.51%)	98.09%	
Consumer Division Cases (Cases/1000 customers)	10	0.241 (+/- 0.137)	0.404	
Bill Adjustments (\$/1000 customers)	10	\$7.47 (+/- \$9.03)	\$0.00	
SAIFI	5	0.645 (+/- 0.129)	0.697	
SAIDI	5	48.74 (+/- 14.31)	66.10	
Lost Time Accident Rate (# of acc/200,000 employee hours worked)	10	2.63 (+/- 0.80)	1.22	

FORM B (Electric Companies)

Cambridge Electric Light Company

28-Feb-03

ADDITIONAL REPORTING	Years in Database	Mean and Benchmark	Performance in 2002	Comments
Staffing Levels		Union 104 6 Management 38	Union 2324 Management 889	
Restricted Work Day Rate (# of acc/200,000 employee hours worked)	10	2.33	2.72	
Property Damage > \$50K (#)	1	NA	0	
Line Loss	10	2.5%	4.4%	Performance in 2002 is estimated pending filing of FERC FORM 1
Capital Expenditures (# of projects and total \$)	10	\$4,978,800	14 \$6,395,000	
Spare Component & Inventory Policy	NA	NA	NA	
Customer Surveys (scale 1-7):				
Random (Overall Customer Satisfaction Survey)	1	NA	84.8%	
Callers (Post-Transaction Survey)	1	NA	85.9%	
Customer Service Guarantees (#; total \$)				
# of Payouts	1	NA	2	
\$ of Payouts	1	NA	\$50	

DTE 03-15

Cambridge Electric Light Company

**Annual Service Quality Plan
Performance Report**

SECTION TWO

Year Ending December 31, 2002

Historical Performance Data



SECTION 2

Cambridge Electric Light Company Performance Review for Year Ending December 31, 2002

I. Introduction

On December 5, 2001, the Department of Telecommunications and Energy (the “Department”) approved a Service Quality Plan (the “SQ Plan”) for Cambridge Electric Light Company d/b/a/ NSTAR Electric (“Cambridge,” or the “Company”). In accordance with the terms of the SQ Plan, Cambridge filed its first annual service-quality report on March 1, 2002. That filing established the benchmarks (using data through 2001) against which performance in the 2002 calendar-year period would be measured. In this section (Section 2) of the filing, the Company reviews: (1) the historical data underlying those benchmarks; (2) the performance results for 2002; and (3) the comparison of 2002 performance results to the established benchmarks. Items (2) and (3) are provided in this section at Schedule 1, at page 1. Item (1) is provided in Schedule 1, at page 2.

In Section 3 of this filing, the Company has provided documentation for the reliability and safety requirements that are subject to the reporting requirements of the SQ Plan.

Also in Section 3, the Company has provided updated historical performance data through December 31, 2002. Based on this data, the Company has calculated the benchmarks that will be applied to evaluate 2003 performance data in next year’s filing. In that regard, the Company has recalculated benchmarks for three measures for which there was less than the requisite level of data as of December 31, 2001. For these three measures, the benchmarks applied next year are calculated using data through December 31, 2002. As provided by the SQ Plan, benchmarks that were calculated using the requisite level of data as of December 31, 2001, are fixed for the period of the SQ Plan. The fixed and updated benchmarks for 2003 are set forth in Appendix 12.

Specifically Section 3 contains the following:

- Appendix 1: Customer Surveys
- Appendix 2: Customer Average Interruption Duration Index
- Appendix 3: Restricted Work Day Data
- Appendix 4: Annual Line Loss Data
- Appendix 5: Damage to Company Property In Excess of \$50,000
- Appendix 6: Excludable Major Events

- Appendix 7: Tree Trimming Policy
- Appendix 8: Capital Expenditures
- Appendix 9: Spare Component and Acquisition Inventory Policy
- Appendix 10: Poor Performing Circuits
- Appendix 11: Staffing Levels
- Appendix 12: Updated Historical Data and Calculation of Benchmarks for 2003 Performance

II. Performance Review for Year Ending December 31, 2002

A. Customer Service and Billing Performance Measures

1. Telephone Service Factor

For the Telephone Service Factor, the Company is required to track and report data on the percentage of telephone calls from customers that are handled within a 30-second time interval, including both emergency and non-emergency calls.¹ Cambridge began collecting data based on the percentage of calls answered within 30 seconds in 1997. Based on available data through 2001, the Company's benchmark for this measure is 64.68 percent. In 2002, the Company handled 80.24 percent of calls within 30 seconds, which generated an offset for the Company.

Because the 2002 performance benchmark calculated for the Telephone Service Factor was based on less than ten years of historical data, the Company has updated this benchmark to include 2002 performance. As shown in Appendix 12, the benchmark against which 2003 performance will be measured has increased from 64.68 percent to 67.27 percent.

2. Service Appointments Met as Scheduled

As of January 1, 2002, the Company instituted a system to compile statistics on the percentage of service appointments met by Company personnel, excluding appointments missed by the customer. A "service appointment" is defined as a mutually agreed upon arrangement for service between the customer and the Company where the arrangement specifies the date for the Company's personnel to perform a service activity that requires the presence of the customer at the time of the service. The Company will continue to update the data annually in accordance with the Department's guidelines, and will establish the benchmark when three years of data become available. As detailed in

¹ In accordance with the Department's directives, effective January 1, 2002, the Company began to measure the percent of calls handled within a 20-second time interval. For this performance measure, the Company handled 76.04 percent of calls within 20 seconds.

Appendix 12, the Company met 100.00 percent of its service appointments as scheduled in 2002.

3. On-Cycle Meter Readings

Cambridge is required to report on the percentage of meters that are actually read by the Company in accordance with the meter-reading cycle. Based on available data through 2001, the Company's benchmark for this measure is 98.57 percent. In 2002, the Company achieved 98.09 percent of on-cycle meter reads, which is within one standard deviation of the benchmark.

Because the 2002 performance benchmark calculated for On-Cycle Meter Readings was based on less than ten years of historical data, the Company has updated this benchmark to include 2002 performance. As shown in Appendix 12, the benchmark against which 2003 performance will be measured has changed from 98.57 percent to 98.49 percent.

B. Customer Satisfaction Performance Measures

1. Consumer Division Cases

The Company is required to measure its performance in relation to the number of customer-complaint cases filed with the Department's Consumer Division. Based on the 10 years of data provided to the Company, the performance benchmark shown on Schedule 1 is 0.241, which will remain fixed for the duration of the service-quality plan. In 2002, the number of Consumer Division cases was 0.404, which resulted in a penalty to the Company.

2. Billing Adjustments

The Company is required to measure its performance in relation to the amount of revenue adjustments that result from the Department's intervention in a billing dispute with a residential customer. This is based on data that is compiled and reported by the Department and then provided to the Company. Based on the 10 years of data provided to the Company, the performance benchmark shown on Schedule 1 is 7.47, which will remain fixed for the duration of the SQ Plan. In 2002, the number of Billing Adjustments was 0.00.

C. Safety and Reliability Performance Measures

1. System Average Interruption Duration Index ("SAIDI") and System Average Interruption Frequency ("SAIFI")

The SQ Plan requires the Company to track and report SAIDI/SAIFI statistics and to base the benchmark for this measure on the most recent five years of data. Under the SQ Plan, SAIDI and SAIFI are calculated with the exclusion of "Excludable Major Events." One criterion for an Excludable Major Event is that it be an unplanned

interruption of service to 15 percent or more of the Company's customers in an "operating area." The Department has defined "operating area" to mean the Company's entire service territory. The Company's historical SAIDI/SAIFI statistics are based on the exclusion of major events defined as events that affected a significant number of customers on a service-area basis (rather than a company-wide basis). Schedule 1 shows the SAIDI/SAIFI performance benchmarks that were fixed for the duration of the SQ Plan based on the most recent five-years of historical data (1997-2001), excluding major events as defined on the historical "service-area" basis. As shown in Schedule 1, the SAIDI benchmark is 48.74 and the SAIFI benchmark is 0.645. In 2002, the Company's performance statistics were 66.10 for SAIDI and 0.697 for SAIFI, resulting in a penalty for SAIDI and performance within one standard deviation of the benchmark for SAIFI.

2. Lost-Work Time Accident Rate

The SQ Plan requires the Company to report on the Incidence Rate of Lost Work Time Injuries and Illness per 200,000 Employee Hours, as defined by the U.S. Department of Labor Bureau of Labor Statistics. This data is compiled and reported annually to the U.S. Department of Labor Bureau of Labor Statistics and the Company has 10 years of available data for this measure. Based on that data, the performance benchmark for this measure is 2.63. In 2002, the number of Lost Work Time Accidents was 1.22, which generated an offset for the Company.²

² On January 1, 2002, the U.S. Department of Labor, Occupational Safety and Health Administration, revised the regulations concerning the recording and reporting requirements for occupational injuries and illnesses. See 29 CFR § 1904.7. Specifically, the revised regulations require the Company to include the number of calendar days that an employee was unable to work as a result of injury, regardless of whether or not the employee was scheduled to work on those days (29 CFR § 1904.7(iv)). The Company's performance benchmark for Lost-Work Time Accident Rate, which is based on ten years of historical information, excludes weekends, holidays or other days that an employee would not normally have reported to work. For OSHA reporting purposes, the Company will maintain a log of occupational injuries or illnesses consistent with the new regulation going forward. However, for purposes of the annual service-quality report, the Company will track and report its performance consistent with the prior version of the regulation so that the performance data will match the historical data composing the performance benchmark.

**CAMBRIDGE ELECTRIC LIGHT COMPANY
SERVICE QUALITY STANDARDS**

	Required Years	Actual Years	Historical		Penalty / Offset	Max (2)	Results - 2002				
<u>Measures</u>	<u>History</u>	<u>Available</u>	<u>Average</u>	<u>Std Dev</u>	<u>Weight</u>	<u>Penalty</u>	<u>Observ.</u>	<u>Variance</u>	<u>No. of Std Devs</u>	<u>Penalty / (Offset)</u>	
<u>Customer Service and Billing</u>											
% Calls Answered (1)	10	5	64.68%	4.29%	12.5%	\$ 91,748	80.24%	15.56%	3.6245	\$ (91,748)	
% Services Appointments Met	10	0	NA	NA	12.5%	91,748	NA	NA	NA	NA	
% On-Cycle Meter Reads	10	5	98.57%	0.51%	10.0%	73,398	98.09%	-0.48%	-0.9290	0	
<u>Safety and Reliability</u>											
Lost Work Day Accidents	10	10	2.63	0.80	10.0%	73,398	1.22	-1.41	-1.7650	(57,164)	
SAIDI - 5 yrs	5	5	48.74	14.31	22.5%	165,146	66.10	17.36	1.2131	60,759	
SAIFI - 5 yrs	5	5	0.645	0.129	22.5%	165,146	0.697	0.052	0.4057	0	
<u>Consumer Division Statistics</u>											
Consumer Division Cases	10	10	0.241	0.137	5.0%	36,699	0.404	0.163	1.1889	12,969	
Billing Adjustments	10	10	7.47	9.03	5.0%	36,699	0.00	-7.47	-0.8270	0	
Total					100.0%	\$ 733,981				\$ (75,183)	

Notes

(1) Telephone statistic based on Calls Handled within 30 Seconds; includes calls abandoned after threshold.

(2) Max penalty is incurred at 2 sd from average

(3) Two percent of total T&D revenue in 2002.

Less: Service Guarantee Payout

\$734,031

50

Maximum Penalty / (Offset)

\$733,981

CAMBRIDGE ELECTRIC LIGHT COMPANY

Measures	History (1)																
	2001	2000	1999	1998	1997	1996	1995	1994	1993	1992	1991	1990	1989	1988	Sample	Average	Std Dev
<u>Customer Service and Billing</u>																	
% Calls Answered	60.26%	71.16%	61.55%	64.26%	66.17%										5	64.68%	4.29%
% Services Appointments Met															0	NA	NA
% On-Cycle Meter Reads	98.64%	98.87%	98.64%	97.69%	99.00%										5	98.57%	0.51%
<u>Safety and Reliability</u>																	
Lost Work Day Accidents	1.54	2.49	2.89	1.43	2.35	3.24	2.81	3.84	3.58	2.17					10	2.63	0.80
SAIDI - 5 yrs	37.26	37.17	40.72	66.2	62.33										5	48.74	14.31
SAIFI - 5 yrs	0.659	0.498	0.815	0.712	0.540										5	0.645	0.129
<u>Consumer Division Statistics</u>																	
Consumer Division Cases	0.126	0.176	0.569	0.207	0.158	0.320	0.133	0.212	0.159	0.347					10	0.241	0.137
Billing Adjustments	0.00	11.17	3.41	1.70	23.47	11.04	21.79	0.00	2.09	0.00					10	7.47	9.03

Notes
(1) 12 Month period January to December.

DTE 03-15

Cambridge Electric Light Company

Annual Service Quality Report

SECTION THREE

Year Ending December 31, 2002

Back-up Data and Supporting Schedules



SECTION 3

I. Non-Penalty Related Service Quality Information

Section VIII of the SQ Plan sets forth a number of non-penalty related reporting requirements for the Company's annual service-quality filings. These reports are as follows:

Appendix 1: Customer Surveys

Pursuant to section III.C of the SQ Plan, Cambridge conducted an annual survey of (1) overall customer satisfaction as indicated by a statistically representative sample of residential customers, and (2) post-transaction customer satisfaction as indicated by a sample of randomly selected customers who have contacted the Company's customer-service department during the year. The surveys were conducted by Research International, which is an independent research firm with significant experience in conducting customer satisfaction surveys. Consistent with historical practice the customer surveys for Cambridge Electric are conducted in combination with those of the Commonwealth Electric Company. The results of these surveys are presented in Appendix 1.

Appendix 2: Customer Average Interruption Duration Index ("CAIDI")

The CAIDI performance statistics for the ten most recent years ending December 31, 2002 are provided in Appendix 2. Historically, the Company's CAIDI performance statistics have been calculated on the same basis as SAIDI and SAIFI. As a result, the CAIDI performance statistics for Cambridge are based on a calculation that excludes major events that occur on a service-area basis (rather than a company-wide basis), as discussed above in relation to the SAIDI/SAIFI benchmarks.

In addition, it should be noted that, under the provisions of the SQ Plan, when customers lose power as a result of the process of restoring, the duration of these additional outages is included in SAIDI, but the additional number of interruptions is excluded from the calculation of SAIFI. See, Section V(I). Further, under Section I(B), CAIDI is calculated as SAIDI divided by SAIFI. A consequence of this construction is that, in calculating CAIDI, the numerator and the denominator are not representing the same outages i.e., there are outages that are included in the numerator, but not in the denominator. To be consistent with industry practice, the numerator and the denominator of the CAIDI calculation should represent the same outages.¹

Appendix 3: Restricted Work Day Rate

¹ The Company's CAIDI statistic for 2002 would be 59.38 with the outages associated with power restoration excluded from SAIDI.

The Restricted Work Day Rate is the Incidence Rate of Restricted Work Cases Per 200,000 Employee Hours, as defined by the U.S. Department of Labor, Bureau of Labor Statistics. This information is provided for the most recent ten years in Appendix 3.

Appendix 4: Electric Distribution Line Loss

Pursuant to section VIII.A of the SQ Plan, the Company is required to report electric distribution line loss on an annual basis. For 2002, this information is provided in Appendix 4. The annual line loss value for electric companies is the net result of reconciling the total sources of power to the amount of electricity supplied to customers, plus company use. The derivation of the calculation is set forth on page 401a of the Company's annual FERC Form 1.

Appendix 5: Damage to Company Property In Excess of \$50,000

Pursuant to section VIII.A of the SQ Plan, the Company is required to provide an annual report of property-damage incidents involving property damage to Company-owned facilities exceeding \$50,000 per incident. For 2002, there were no such incidents.

Appendix 6: Excludable Major Events

Pursuant to section VIII.D of the SQ Plan, the Company is required to identify and report on an annual basis the outages that are considered Excludable Major Events in the calculation of SAIDI/SAIFI statistics. Information for 2002 is provided in Appendix 6.

Appendix 7: Tree Trimming Policy

The Company's Tree-Trimming Policy is provided as Appendix 7.

Appendix 8: Capital Expenditures

The Company's data on capital expenditures for the ten most recent years (1993 through 2002) is provided in Appendix 8.

Appendix 9: Spare Component and Acquisition Inventory Policy

Pursuant to section VIII.F of the SQ Plan, Cambridge is required to report on an annual basis its policy for identifying, acquiring, and stocking critical spare components for its distribution and transmission system. The Spare Component and Acquisition Inventory Policy is provided as Appendix 9.

Appendix 10: Poor Performing Circuits

Pursuant to section VIII.G of the SQ Plan, Cambridge is required to identify and report on an annual basis its poor performing circuits. For 2002, the Company's

information is provided as Appendix 10. Poor performing circuits are any distribution feeder that:

- (a) has sustained a circuit SAIDI or SAIFI value for a reporting year that is among the highest (worst) ten percent of that utility's feeders for any two consecutive reporting years; or
- (b) has sustained a circuit SAIDI or SAIFI value for a reporting year that is more than 300 percent greater than the system average of all feeders in any two consecutive reporting years.

Appendix 11: Staffing Levels

Staffing level information for the Company is provided in Appendix 11.

Appendix 12: Performance Benchmarks for 2003

In Appendix 12, the Company has updated historical data to include 2002 performance data in the calculation of benchmarks for the 2003 reporting period, where the benchmarks were not fixed for the duration of the SQ Plan.

II. Customer Service Guarantees

Pursuant to section XI of the SQ Plan, Cambridge is required to provide information as to the customer payments credited as a result of the customer-service guarantee program during the service-measurement period. As indicated in the SQ Plan, Cambridge credits the customer's account by \$25.00 if a meter reading is inaccurate, if the Company knowingly fails to inform a customer that it will be more than 30 minutes late for a service appointment, if there is an error in the direct payment or pay-by-phone billing systems, if the Company fails to inform a customer of a scheduled service interruption, or if the Company does not respond to a billing question by the next business day. In addition, if a new residential service line is not connected by the agreed date (after all permits are received), the first month's bill is free (minimum \$25, maximum \$100). In 2002, Cambridge remitted to customers a total of \$50.00 under its Customer-Service Guarantee program.

III. Conclusion

As set forth above, this filing establishes the performance benchmarks for service-quality measures subject to the penalty mechanism based on historical data available through December 31, 2002. On March 1, 2004, Cambridge will make its annual filing, which will compare the Company's performance in 2003 to the benchmarks established in this filing. The Company's March 2004 filing will also include documentation to satisfy all other reporting requirements set forth in the approved SQ Plan.

Cambridge Electric Light Company

Customer Surveys

Year Ending December 31, 2002



Appendix 1

RESEARCH INTERNATIONAL



MEMO

TO NSTAR
FROM Research International
DATE February 19, 2003

RE: Residential customer satisfaction metrics (former COM/Electric service area)

The following results are from a representative sample of 700 NSTAR residential customers. Of the 700 surveys, 550 were with NSTAR Electric residential customers (300 in the former Boston Edison service area, and 250 in the former COM/Electric service area) and 150 with NSTAR Gas residential customers. Respondents were asked to evaluate their overall satisfaction with NSTAR using a 7-point scale, where a rating of "7" means "very satisfied." The data from NSTAR Electric customers are weighted to reflect the true proportion of former Boston Edison customers to former COM/Electric customers. *"Don't know" responses are excluded from the analysis.*

- More than eight in ten (84.8%) NSTAR Electric customers living in the former COM/Electric service area rate positively their overall satisfaction with NSTAR (5 or higher on 7-point scale).

The associated margin of error for the sample of 250 surveys is +/-6.2 percentage points at the midpoint of the 95% confidence level

Jeff Banks
Senior Vice President
Research International/Cambridge
617.661.0110
955 Massachusetts Avenue
Cambridge, MA 02139

RESEARCH INTERNATIONAL



MEMO

TO NSTAR
FROM Research International
DATE February 19, 2003

RE: Post-transaction residential customer satisfaction metrics (former COM/Electric service area)

The following results are from a representative sample of 900 NSTAR residential customers who recently contacted NSTAR for service. Of the 900 surveys, 724 were with NSTAR Electric residential customers (458 in the former Boston Edison service area, and 266 in the former COM/Electric service area) and 176 with NSTAR Gas residential customers. Respondents were asked to think about the most recent time they called NSTAR and to evaluate their *overall satisfaction with the service they received from the customer service department of NSTAR* using a 7-point scale, where a rating of "7" means "very satisfied." *"Don't know" responses are excluded from the analysis.*

- More than eight in ten (85.9%) NSTAR Electric customers living in the former COM/Electric service area rate positively their overall satisfaction with NSTAR's customer service (5 or higher on 7-point scale).

The associated margin of error for the overall sample of 266 surveys is +/-6.0 percentage points at the midpoint of the 95% confidence level

Jeff Banks
Senior Vice President
Research International/Cambridge
617.661.0110
955 Massachusetts Avenue
Cambridge, MA 02139

Cambridge Electric Light Company

Customer Average Interruption Duration Index

CAIDI

Year Ending December 31, 2002



Appendix 2

Cambridge Electric Light Company
SQ Plan
Historical Data

<u>Year</u>	<u>SAIFI</u>	<u>CAIDI</u>	<u>SAIDI</u>
1993	0.420	71.34	29.98
1994	0.530	108.73	57.63
1995	0.604	110.54	66.76
1996	0.717	73.55	52.77
1997	0.540	115.33	62.33
1998	0.712	93.01	66.20
1999	0.815	49.97	40.72
2000	0.498	74.64	37.17
2001	0.659	56.54	37.26
2002	0.697	94.78	66.10

Excludes outages affecting greater than 15% of Company's service territory.

Cambridge Electric Light Company

Restricted Work Day Data

Year Ending December 31, 2002



Appendix 3

Injury Statistics

Restricted Duty Cases

Commonwealth Electric and Cambridge Electric Companies

	<u>Hrs. Wkd.</u>	<u># of Cases</u>	<u>Rate</u>
1993	2,289,580	16	1.40
1994	2,184,787	30	2.75
1995	2,133,823	28	2.62
1996	2,097,821	17	1.62
1997	1,959,178	18	1.84
1998	1,821,364	18	1.98
1999	1,520,970	19	2.50
2000	1,363,403	18	2.64
2001	1,301,082	21	3.23
2002	1,666,906	23	2.72
Mean			2.33

Incident Rate = Number of Cases x 200,000/Hours Worked

Cambridge Electric Light Company

Annual Line Loss Data

Year Ending December 31, 2002



Appendix 4

<p>Annual Line Loss Data Cambridge Electric Company</p>	
-------------------------------------------------------------	--

1993	1.7%
1994	2.4%
1995	2.4%
1996	2.7%
1997	2.2%
1998	2.4%
1999	1.6%
2000	2.5%
2001	3.1%
2002**	4.4%

** Subject to finalization of FERC FORM1 1 and DTE Annual Report for year-end 2002.

Cambridge Electric Light Company

Damage to Company Property

Year Ending December 31, 2002



Appendix 5

Cambridge Electric Company

Damage to Company Property in Excess of \$50,000

- None

Cambridge Electric Light Company

Excludable Major Event

Year Ending December 31, 2002



Appendix 6

2002 Major Outage Events

Cambridge Electric Light Company

Service Area	Event / Date	Customers Affected	Customers without service at periodic intervals	Longest Customer Interruption	Crews used to restore service
Cambridge	Transformer event August 13	18,000	30 minutes – 18,000	30 minutes	3 crews

Cambridge Electric Light Company

Tree Trimming Policy

Year Ending December 31, 2002



Appendix 7

NSTAR DISTRIBUTION TREE PRUNING POLICY

General

The Distribution Pruning Policy is intended to provide pruning contractors with guidelines for performing work acceptable to the NSTAR Company, including proper pruning techniques, work progress reporting and time reporting.

The Policy also documents general management procedures for dealing with the various aspects of Pruning Program Control.

The Policy pertains to both maintenance pruning, which is done on an ongoing cyclic basis of approximately three to six years and to “new work” pruning.

Note: Company representative or delegate as referred to in this policy shall be understood to mean those individuals normally assigned to monitor tree crew activities in a given district or area within a district.

Guidelines For Tree Pruning And Removal

- 1) Provisions of the latest revisions to ANSI A-300 American National Standard for Tree Care Operations – Tree Shrub and Other Woody Plant Maintenance – Standard Practices shall be followed.
- 2) The desired amount of clearance necessary for conductors and electrical equipment should be such that high winds, rain, heavy snow, ice or a combination of any of them will not cause limbs or trees to come in contact with wires or other equipment. Effort should be made to remove any dead trees or limbs that in the event of their falling could contact conductors.
 - a) Clearance Guidelines – Refer to Exhibit 1.
 - b) Road Screens – Where existing, shall be topped depending on the ground clearance of the conductors above, using the drop crotch or “Natural Pruning” technique as shown in Exhibit 1.
- 3) Generally Accepted Scientific Arboricultural Principles as Applied to line Clearance Work – For safe and healthy trees, the following recommendations are suggested:
 - a) Branches growing into a conductor should be removed by cutting back at a lateral or main side branch, rather than stub cutting. (“Natural Pruning”)
 - b) All cuts shall be properly made, using undercutting to avoid damage by loosening or stripping of bark; the so-called “Branch Bark Collar” shall be left intact but no stubs shall remain. Cuts shall be smooth to allow for callus tissue to form and to retard decay. Properly made saw cuts at the laterals, where the lateral is at least one third (1/3) the size of the branch or leader removed, reduce the number and vigor of re-growth sprouts through the trees natural growth mechanisms. (“Natural Pruning”).

- c) In general, tree paint is not required. In specific instances state or municipal authorities may require tree paint. In such instances growth retardant paint should be used. Asphalt based tree paints shall not be used as they promote growth of certain rot fungi.
- d) Remove raised sucker clusters at parent limb and remove undesirable limbs that have been stubbed off and have formed accumulated sucker clusters.
- e) Directional prune so that growth will be away from wires.
- f) Lighten overhanging (within 10' of trimmed zone) or adjacent leaders and branches and shorten evergreens overhanging conductors to prevent limbs touching or breaking off and falling on lines in severe storms.
- g) Remove leaders and limbs that are a hazard to lines due to death, decay, weak configuration and split or weak crotches.
- h) Only appropriate tree tools in good working condition shall be used.
- i) Climbing irons shall not be used in any tree unless the tree is to be removed.
- j) All severed limbs and branches (hangers) shall be removed from trees after pruning.
- k) Guidelines for tree removal.
 - i) Unless previous arrangement has been made with the Company Representative, trees that are a hazard to the lines shall be removed; i.e. any tree which by the nature of it's health, size or condition endangers the line.
 - ii) Defective or diseased trees shall be removed whenever possible.
 - iii) Fast growing and weed trees shall be removed as undesirable species, whenever possible.
 - iv) Trees shall be felled away from conductors.
 - v) In areas where damage might be caused to conductors or property, trees shall be stripped of all limbs with the trunk removed in sections, as necessary.
 - vi) All brush shall be removed daily from public thoroughfares and other improved places unless otherwise arranged with the Company Representative.
 - vii) All stumps shall be cut flush and parallel to the ground. Tree stumps shall not exceed a maximum height of three (3) inches. All brush shall be cut flush and parallel to the ground.
 - viii) Wood and brush (cribbing) shall be used as a cushion to protect from potential damage due to felling trees or heavy limb sections. The probability of a bouncing effect is normally increased when using cribbing and should be allowed for.
- 4) Prioritization of Pruning – Distribution pruning should be performed on a circuit basis whenever possible. Always start pruning from the substation out, as this area is of greatest importance due to the large number of customers affected by outages caused in this area.
- 5) Three-phase lines should have greater clearance and attention than single-phase spur lines. Pruning is performed to protect the largest number of customers from an interruption. Three-phase interruptions will affect more customers.

6) Safety – Good Relations – Clean-up

- a) The contractor will take all safety and protective precautions and with respect thereto will strictly enforce all applicable regulations of Municipal, State and Federal Laws, the various insurers and the Company. These shall include OSHA and ANSI Z133.1.
- b) A neat appearance, pleasant approach and a clear explanation as to what you mean or want when contacting people. In any instance where there is a misunderstanding or a possible cause for trouble with a customer or municipal official, notify the Company Representative, so that proper action can be taken. When a property owner or municipal official absolutely will not allow proper pruning refer the situation to the Company Representative in writing. If pruning in a given area is under dispute – move to another area.
 - i) Utility Company Relations – Tree crew to contact the Company every day and report work location; details of who to report to, when and where will be specified by the local Company Representative.
 - ii) Outage – Whenever there is a question of a possible accidental outage of power caused by a tree crew, the Company is to be notified immediately.
 - iii) Municipal Regulations – Notify the proper municipal official (Tree Warden, etc.) as required and let them know what location you are working in. Get permission to do tree work on municipal trees from the proper authority before doing the work.
 - iv) State Regulations – When doing tree work on a State Highway have a copy of the State Tree Pruning Permit with Permit Number. All tree work on State Highways must be approved and supervised by the proper State Official. State regulations on barricades and warning signs must be observed.

Dispose of all debris properly and leave the work area in a neat and clean condition. Unless otherwise specified, wood shall be left for property owner. All trucks will have leaf blowers to clear roadway areas.

Contractor Responsibility

“The relationship of the Company and the Contractor is acknowledged to be that of owner and independent contractor. The means and methods employed for performing the details of pruning shall be the responsibility of the Contractor, subject to the suggestions and approvals of the Company’s designated representative.”

- 1. Compliance with Laws and Regulations – The Contractor shall comply with all applicable laws and regulations and all work and materials are to comply in every respect with all applicable codes, laws and regulations. All necessary permits, licenses, etc., for the Work unless obtained by the Company are to be obtained and paid for by the Contractor, the Company to reimburse the Contractor for the cost thereof unless the Work is being done on a fixed fee basis.

2. Instructions to Contractor – Pruning work includes the furnishing of all supervision, labor, equipment, tools and services necessary to trim trees in designated areas and in a manner acceptable to local or state authorities and Company Representative, per the Pruning Contract/Purchase Order. The Contractor will report daily in writing to the Company Representative any damaged Company equipment (insulators, crossarms, etc.) encountered in the course of his work.
3. All crews are required to attend a yearly review of NSTAR Pruning Policy at the expense of the contractor

Other Related Items

1. Privately Owned Facilities – The Company in general will not authorize pruning of privately owned facilities.
2. Contractor List – Owners of private electrical facilities may occasionally ask for recommendations concerning private contractors for line maintenance or pruning work. The Company position is not to make recommendation of any specific contractor for reasons of liability.
3. Refusal to Allow Pruning – When the pruning contractor reports a refusal to allow pruning, the Company Representative shall contact the involved party in an effort to secure the proper pruning. If no agreement can be reached the refusing party shall be contacted via registered mail (Return Receipt Requested)

The letter will relate our reasons for pruning i.e. protection of our facilities, reliability of service, protection of the public (tree climbers) and serve as documentation of our attempt to secure adequate pruning. Hopefully this letter will prompt some to reconsider their refusal. If not, we will have documentation of our intent and attempt to secure adequate pruning.

4. Documentation of Tree Removal – When, due to diseased or dead state, ornamental or large shade trees are by necessity removed, documentation in the form of detailed notes and/or photographs should be kept. This documentation may be valuable in the event a customer later brings a claim against the Company for the value of a tree claiming “wrongful removal”.

Methods of Pruning

There are many methods of pruning trees for line clearance, but not all methods are attractive or advantageous to the tree, nor are all methods effective for long-term line clearance. The basic pruning methods are pollarding, shearing or rounding over and natural pruning (Fig. 3).

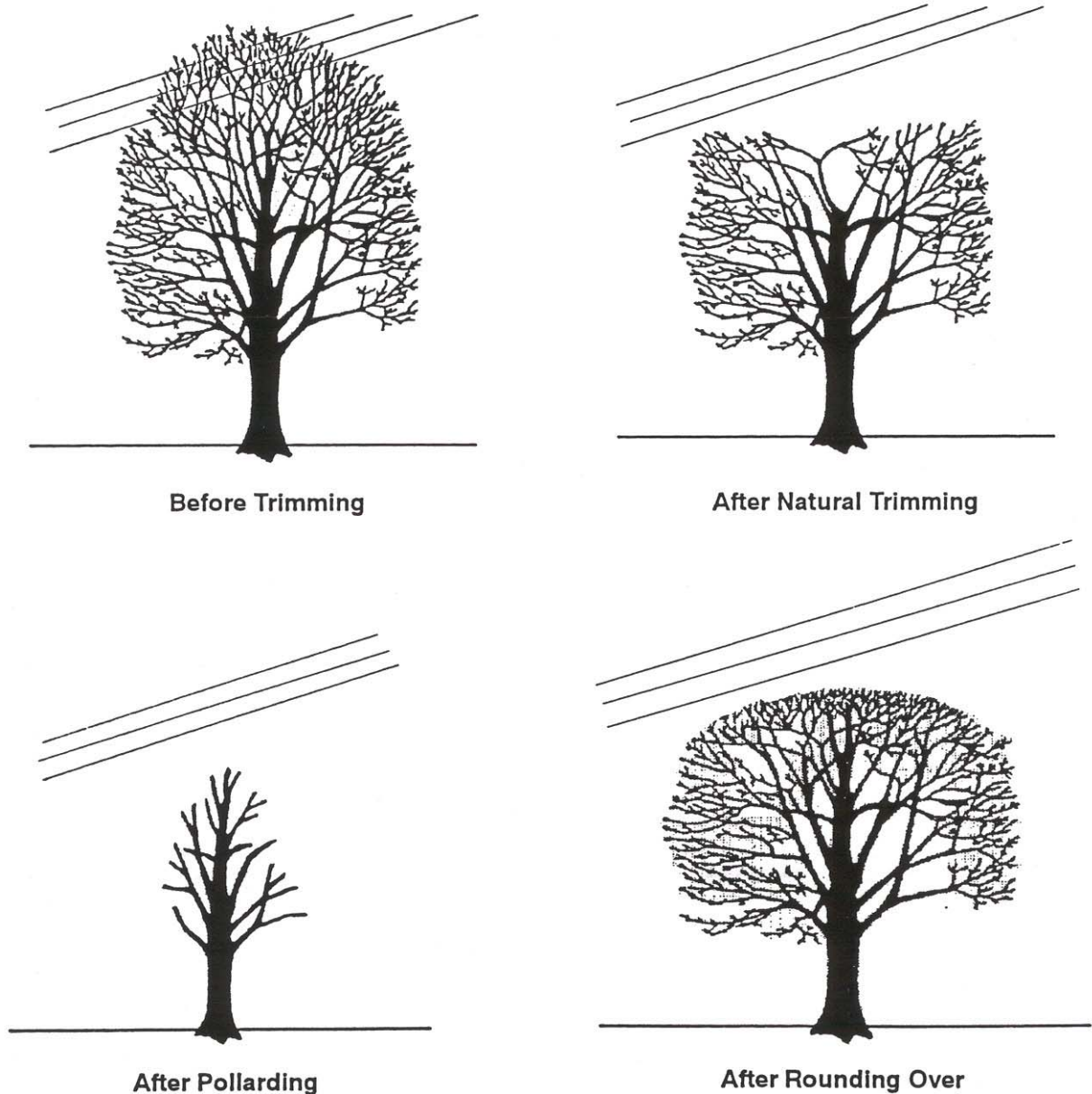


Figure 3. Basic Trimming Methods

Stubbing off major limbs by pollarding is not a desirable pruning practice.

The result is not only unsightly, but multitudes of fast-growing suckers sprout from the stubs and soon result in line clearance problems more serious than before. The stubs are also likely to fall victim to decay or disease. Finally, this method of pruning attracts unfavorable public attention.

Shearing or Rounding Over consists of making many small cuts so that the treetop is sheared in a uniform line. This results in rapid re-growth of many small sprouts, called suckers, directly toward the conductors. Because of this rapid re-growth of suckers, trees trimmed by the rounding over method need to be re-trimmed sooner than trees trimmed by the natural pruning period.

Natural Pruning is the method recommended by most professionals. Natural pruning is cutting branches flush at a suitable parent limb, back toward the center of the tree. This method of pruning is sometimes called “drop crutching” or “lateral pruning”. An attempt is made to remove large branches to laterals at least one-third the diameter of the branch being removed. All cuts should be flush to avoid leaving stubs. Natural pruning is especially adapted to the topping of large trees where a great deal of wood must be removed. In natural pruning, most cuts are made on larger limbs with a saw, and little pole prune work is required. The results are natural-looking trees, even if large amounts of wood have been removed. Natural pruning is also directional pruning, since it tends to guide the growth of the tree away from the wires (Figure 4). Stubbing, on the other hand, tends to promote rapid sucker growth right back into the conductors.

It should be emphasized that natural clearance is highly effective in reducing future costs, and that two or three natural pruning cycles will produce an ideal situation for both the utility and the tree owner. Most shade trees lend themselves easily to this type of pruning. Elm, Norway Maple, Red Oak, Red Maple, Sugar Maple, Silver Maple and European Linden, the most common street trees, react especially well to natural pruning methods.

Crown Reduction is cutting back portions of the upper crown of a tree. Reducing is indicated when a tree is located directly beneath a line. The main leader of leaders are cut back to a lateral, which should be at least one-third the diameter of the limb being removed. Most cuts should be made with a saw. A pole pruner is used only to cut lateral branches. To minimize re-growth, no more than one-fourth of the crown should be removed when topping (Figure 5).

Side Pruning is cutting back or removing side branches that threaten the conductors. Side pruning is required where trees are growing adjacent to utility lines. Limbs should be removed at a lateral branch. Notches in tree crowns should be avoided, if possible. Shortening branches above and below the indented area, or balancing the opposite side if the crown, will usually improve the appearance of the tree. When pruning, all dead branches over the wires must be removed, since this dead wood could easily break off and cause an interruption in service. (Figure 5)

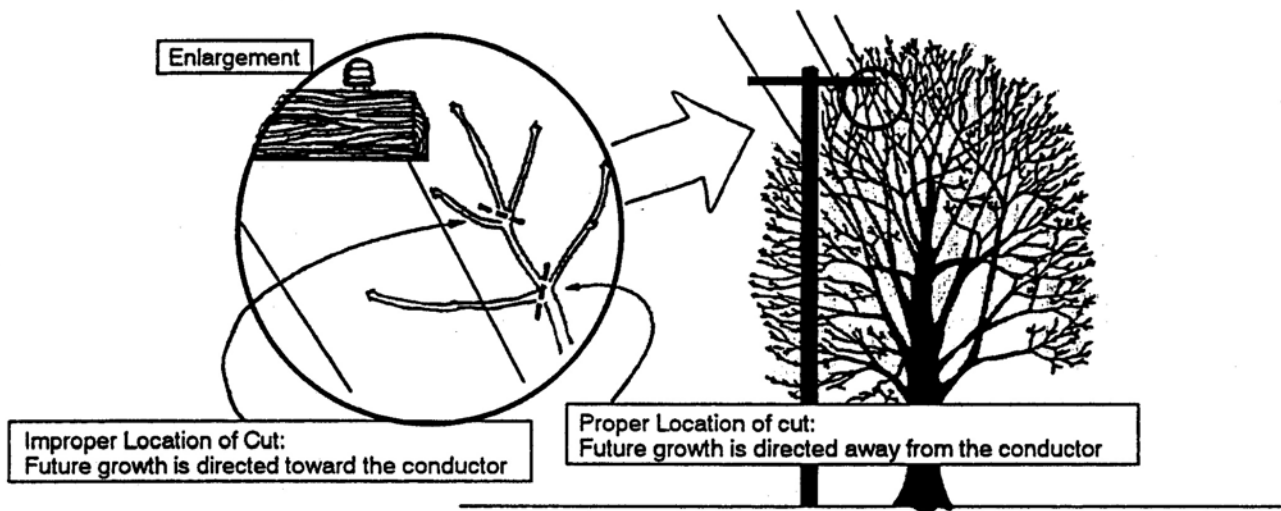


Figure 4. Natural Trimming (to direct growth away from wires)

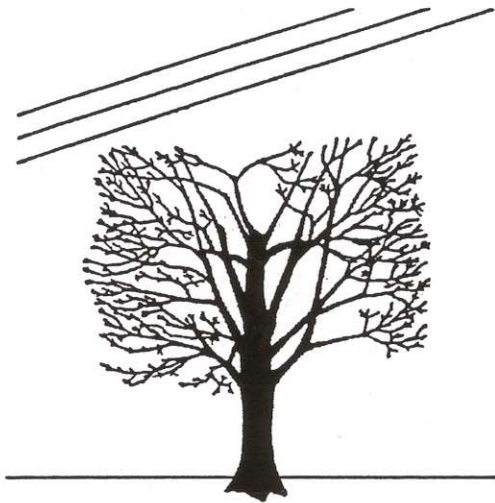
Side Trimming is cutting back or removing side branches that threaten the conductors. Side trimming is required where trees are growing adjacent to utility lines. Limbs should be removed at a lateral branch. Notches in tree crowns should be avoided, if possible. Shortening branches above and below the indented area, or balancing the opposite side of the crown, will usually improve the appearance of the tree. When trimming, all dead branches over the wires must be removed, since this dead wood could easily break off and cause an interruption in service (Figure 5).

Overhang Or Under Pruning consists of removing limbs beneath the tree crown to allow wires to pass below the tree crown. This type of pruning will allow the tree to retain its natural shape and continue its normal growth. Overhangs are hazards when lines pass beneath a tree and should be removed according to the species of the tree, location and the general policy of the utility. When pruning, all dead branches above the wires are removed, since this dead wood could easily break off and cause an interruption. Many utilities have a set removal program for trees that overhang important lines (Figure 5).

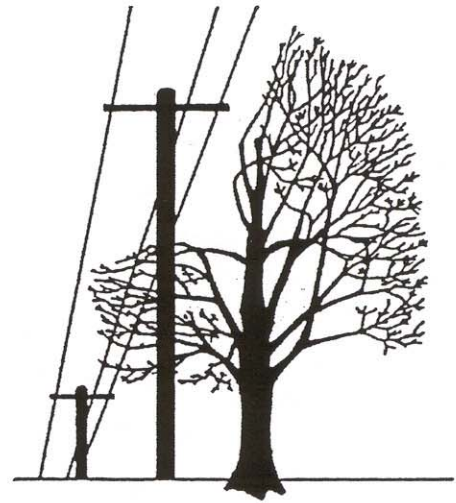
Through Pruning is the removal of branches within the crown to allow lines to pass through the tree. It is best suited for secondaries, streetlight circuits, and cables, although it is often used on primary circuits where there is no other way of pruning the tree. Cuts should be made at crotches to encourage growth away from the lines (Figure 5).

Combinations - It is often necessary to combine several types of pruning in order to maintain acceptable tree appearance and provide adequate clearances.

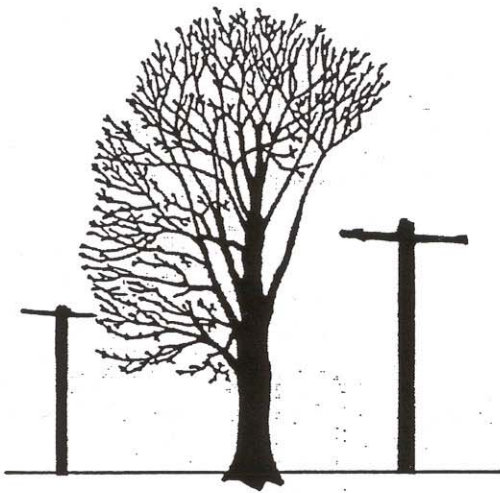
METHODS OF TRIMMING (con't)



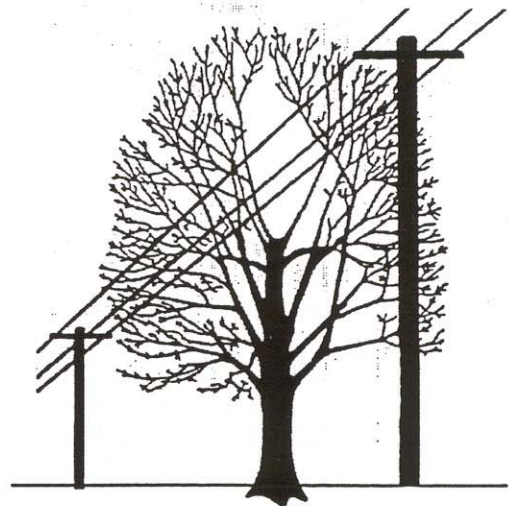
After Top Trimming



After Side Trimming



After Under Trimming



After Through Trimming

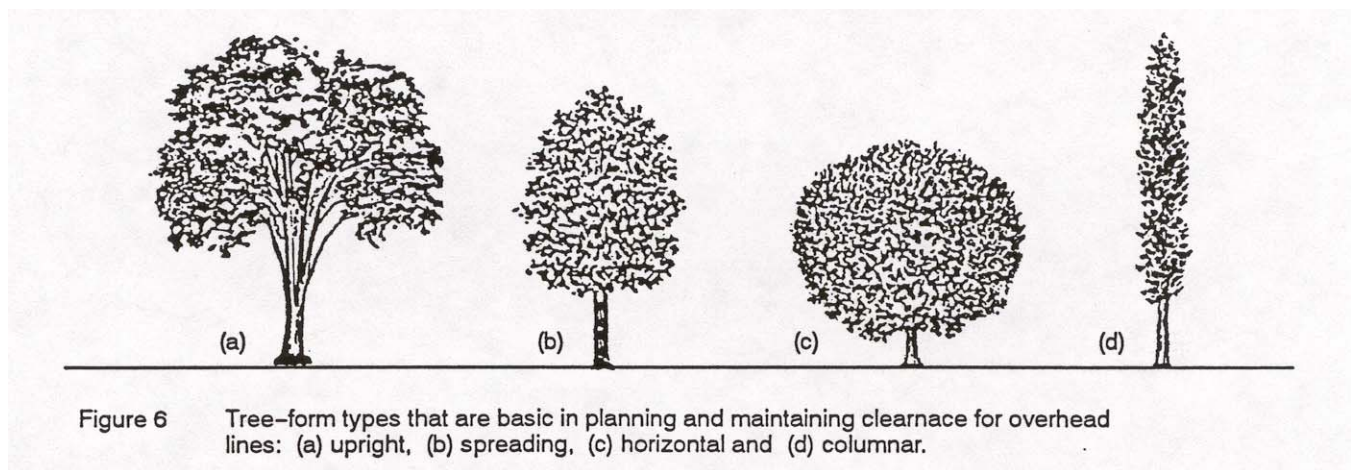
Figure 5. Four types of natural trimming.

ANSI A300 “American Standard for Tree Care Operations – Tree, Shrub and Other Woody Plant Maintenance – Standard Practices”, presents performance standards for the care and maintenance of trees and should be considered a part of this appendix and adhered to in tree operations under this policy.

Techniques

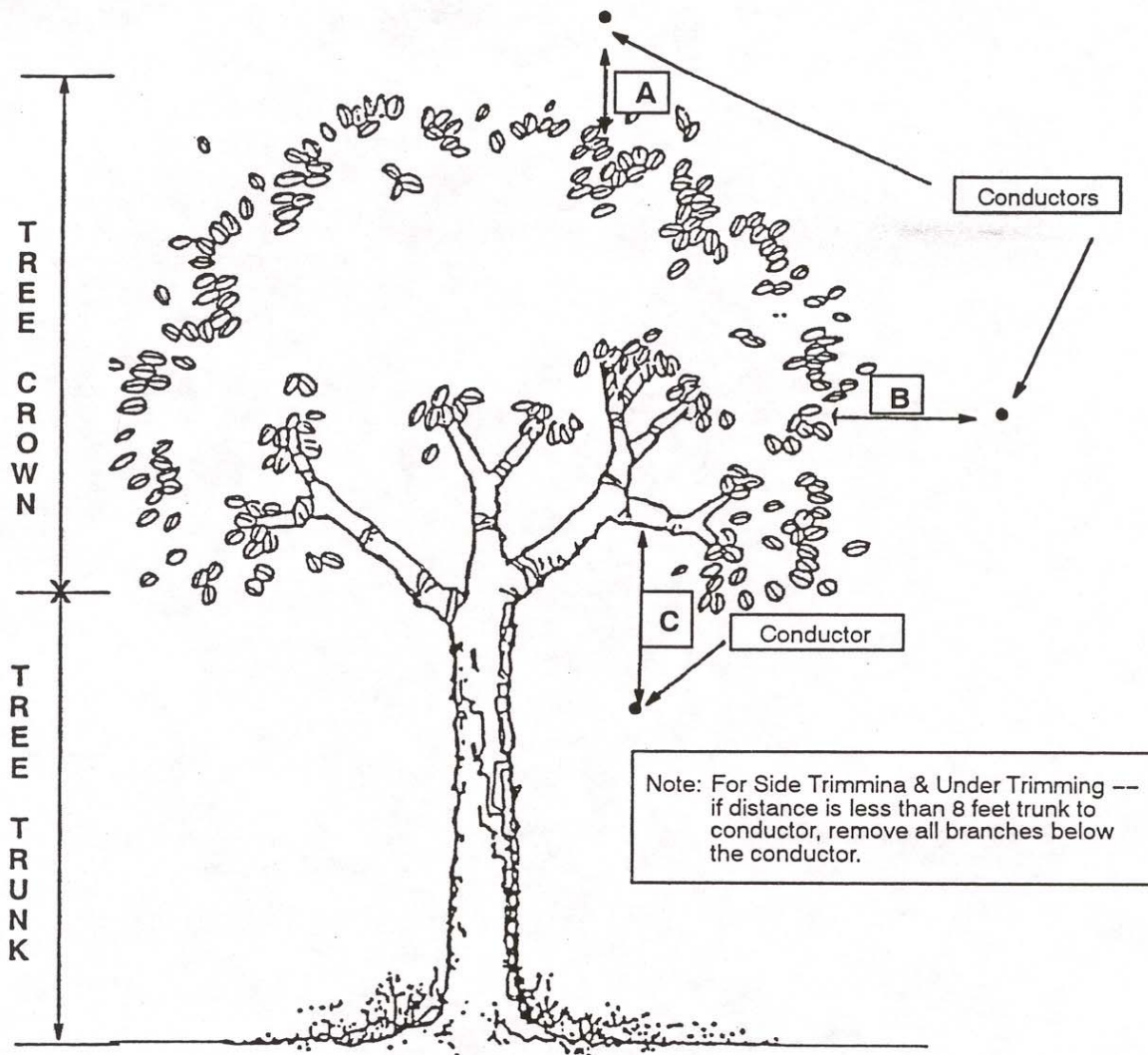
Proper clearance for any type of overhead line is measured not only in feet of clearance but in effectiveness. Both tree and overhead line characteristics must be known to get the maximum effective clearance for each tree. Clearance not only must be adequate when the tree is trimmed but must last. Therefore, each tree should be trimmed so it will need less work at the next trim cycle.

Before tree trimmers begin work, they plan how they are going to trim each tree. Consideration is given to how and when a tree is going to re-grow after it is trimmed. Trees can usually be placed into one of four tree-form types: upright, spreading, horizontal or columnar (Figure 6). If possible, the natural form of the tree should be maintained so that it does not look heavily trimmed.



All line clearance tree pruning should be done in accordance with the American National Standard Safety Requirements for Pruning, Repairing, Maintaining and Removing Trees, and for Cutting Brush” (ANSI Z133.1). The ANSI Z133 standard provides safety criteria for line clearance tree trimmers and the public. Minimum working distances from energized conductors are listed and must always be observed.

EXHIBIT 1



Note: Our objective is to obtain trim clearances as indicated. However, extenuating circumstances may dictate that lesser clearances be accepted.

CLEARANCE	TYPE OF TRIMMING	MINIMUM CLEARANCE FOR 25 KV OR BELOW *
"A"	Topping	8 Feet
"B"	Side Trimming	8 Feet
"C"	Under Trimming (Remove overhang situations where possible)	12 Feet **

* Services should be trimmed only to avoid contact.

** Thin, lighten, or shorten limbs above this point on pines to prevent snow loading.

Secondary electric lines shall be cleared for a minimum clearance of three feet.

Cambridge Electric Light Company

Capital Expenditures

Year Ending December 31, 2002



Appendix 8

Cambridge Electric Light Company
Capital Spending
(Dollars in Thousands)

Description	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Distribution Customer Care:										
Purchase and Install Customer Meter:	\$ 97	\$ 104	\$ 108	\$ 89	\$ 130	\$ 107	\$ 193	\$ 158	\$ 65	\$ 73
Distribution Electric Delivery:										
New/Replace/Upgrade Customer Substations	\$ 168	\$ 92	\$ 29	\$ 100	\$ 756	\$ 960	\$ 322	\$ 686	\$ 196	\$ -
Overhead Distribution Equipment	317	565	651	442	372	809	854	308	123	-
Underground Distribution Equipment	893	1,269	1,275	2,013	2,234	3,027	2,157	(8)	-	-
Overhead Services	15	53	90	75	87	60	66	93	1	-
Underground Services	48	119	108	91	109	147	152	-	-	-
System Failures/Replacements	-	-	-	-	-	-	-	-	-	610
Purchase and Install Transformers	47	95	159	152	147	193	248	171	-	-
Minor Projects	24	-	-	257	(1)	-	9	-	-	-
Upgrade/Replace Substation Equipment	37	105	73	39	11	10	17	75	48	-
110 Bishop Allen Drive - Network	-	88	-	-	-	-	-	-	-	-
13.8Kv Service to Harvard University Switch	-	-	199	-	-	-	-	-	-	-
14 Elliott Street	-	-	94	-	-	-	-	-	-	-
2 Church St - Network	1	-	-	-	-	-	-	-	-	-
22 Spring Street	-	-	35	-	-	-	-	-	-	-
281 Albany Street (Alkermes)	-	35	-	-	-	-	-	-	-	-
600 Memorial Dr - Upgrade	19	5	60	-	-	-	-	-	-	-
987 Memorial Drive	-	146	-	-	-	-	-	-	-	-
Albany Street - Conduit & Manhole	50	-	-	-	-	-	-	-	-	-
Alewife Station Dig Fault Recorder	-	-	53	-	-	-	-	-	-	-
Alewife Station Relay System Upgrade	-	-	-	-	-	-	248	11	-	-
Alewife Bulk/Walden Substation	96	-	-	-	-	-	-	-	-	-
Alewife Bulk/Walden Substation/Porter Square	40	-	-	-	-	-	-	-	-	-
Aluminum Streetlight Replacement	-	101	59	-	-	-	-	-	-	-
Amtrak Tower "A"	-	-	53	-	-	-	-	-	-	-
Amtrak West Cambridge	-	-	130	-	-	-	-	-	-	-
A.O. Wilson - 40 Smith Place	-	-	177	-	-	-	-	-	-	-
Brookline Place Housing	-	-	166	-	-	-	-	-	-	-
Brookline Street Underground	-	-	134	-	-	-	-	-	-	-
Cable Extension - Forest Cities	-	-	-	-	-	-	240	8	-	-
Cable Extension - Harvard Square	-	-	-	-	-	-	677	75	-	-
Cable Extension - Smith Place	-	-	-	-	-	-	193	6	-	-
Cable Relay Upgrade	-	-	-	-	109	-	-	-	-	-
Cadbury Commons	-	-	48	-	-	-	-	-	-	-
Circuit New/Extension	-	-	-	-	-	319	-	-	-	-
City Hall Network System	-	-	41	-	-	-	-	-	-	-
Conservation Voltage Reduction	-	69	60	-	-	-	-	-	-	-
Harvard Sq. Network Dump	44	15	-	-	-	-	-	-	-	-
Harvard Business School Relaying	-	-	41	-	-	-	-	-	-	-
Harvard University Switching Station	44	-	-	-	-	-	-	-	-	-
Immunogen	67	-	-	-	-	-	-	-	-	-
Larchwood Ave - Mainline Conduit	-	121	-	-	-	-	-	-	-	-
Mass Ave - Extend Conduit Service	-	174	90	-	-	-	-	-	-	-
Mass Ave - North Cambridge MBTA	-	161	8	-	-	-	-	-	-	-

Cambridge Electric Light Company
Capital Spending
(Dollars in Thousands)

Description	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
MIT Co-generation	219	(360)	64	-	-	-	-	-	-	-
MIT Interconnection Charges	4	(177)	164	-	-	-	-	-	-	-
MIT Relocate Overhead to Underground	-	2	-	-	-	-	-	-	-	-
Minor Projects	-	-	-	-	-	-	-	370	-	-
New Agassiz School	-	47	76	-	-	-	-	-	-	-
New Haggerty School	74	97	-	-	-	-	-	-	-	-
OSHA Compliance Project	-	-	-	-	-	-	-	-	-	123
Prospect St - Manholes & Conduit	-	98	-	-	-	-	-	-	-	-
Putnam Bulk Cable	-	12	-	-	-	-	-	-	-	-
Putnam Bulk Sub	-	419	12	-	-	-	-	-	-	-
Repair Putnam Transformer	-	-	-	-	-	-	494	646	(788)	-
Remote Thermal Unit Replacements	88	152	130	170	49	3	8	-	-	-
Separation of Facilities @ Kendall	-	-	-	-	-	-	131	21	-	-
Technology Square, Cambridge	-	-	-	-	-	-	-	103	-	-
Tie Line Fiberoptic Cable	-	307	182	111	5	-	-	-	-	-
Y2K Substation Preparation	-	-	-	-	-	-	151	71	-	-
Preliminary Survey	-	-	-	-	-	-	-	5	(3)	-
Like For Like Replacements	-	-	-	-	-	-	-	640	369	932
Minor System Improvements	-	-	-	-	-	-	-	127	27	171
Minor Capital Improvements	-	-	-	-	-	-	-	313	(11)	89
Underground Acts of Public Authority	-	-	-	-	-	-	-	247	104	-
New Customer Connections Cambridge Electric	-	-	-	-	-	-	-	463	2,051	2,612
Residential Customer Cambridge	-	-	-	-	-	-	-	3	4	24
Street Lighting Cambridge	-	-	-	-	-	-	-	-	1	27
New Customer Connections - Mass Ave	-	-	-	-	-	-	-	-	8	-
Street Light Engineering Cambridge - Corner Mass Ave Green St	-	-	-	-	-	-	-	1	-	-
Overhead Work Order and New Customer	-	-	-	-	-	-	-	423	-	-
Engineering Specific -Putnam, Kendall, Alewife, Blackstone Station	-	-	-	-	-	-	-	-	407	-
Minor Projects	-	-	-	-	-	-	-	-	89	-
Internet Hotel - 320 Bent Street	-	-	-	-	-	-	-	-	95	18
Walkdown Repairs Circuits 320-H6 and 450-H7	-	-	-	-	-	-	-	-	1	-
Underground Replacement - Proctor St @ Mass Ave	-	-	-	-	-	-	-	-	1	-
Circuit Upgrade - Walkdown Repairs	-	-	-	-	-	-	-	-	1	-
Improve Overhead Switch	-	-	-	-	-	-	-	-	20	-
4 KV Oil Switch Replacement	-	-	-	-	-	-	-	-	27	-
System Engineering Cambridge	-	-	-	-	-	-	-	-	22	-
New Commercial Customer - Cambridge	-	-	-	-	-	-	-	-	3	10
Keep Cost Cambridge	-	-	-	-	-	-	-	-	53	37
Overhead Keep Cost Knock Down of Poles	-	-	-	-	-	-	-	-	7	(5)
New Customer Connections	-	-	-	-	-	-	-	-	1	-
New Customer Connections	-	-	-	-	-	-	-	-	6	-
Act of Public Authority	-	-	-	-	-	-	-	-	1	283
Maintenance Line of Business	-	-	-	-	-	-	-	-	4	354
Lyme Properties - 320 Bent St/Binney St	-	-	-	-	-	-	-	-	(60)	-
Overhead Corrective Replacement - Cambridge - Various	-	-	-	-	-	-	-	-	3	-
Overhead Work Order - Cambridge	-	-	-	-	-	-	-	-	16	-
Minor Projects - Cambridge - Various Areas	-	-	-	-	-	-	-	-	16	-
Underground Projects - Cambridge - Various Areas	-	-	-	-	-	-	-	-	103	-

Cambridge Electric Light Company
Capital Spending
(Dollars in Thousands)

Description	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Minor Projects - Cambridge - Various Areas	-	-	-	-	-	-	-	-	85	-
Act of Public Authority - Cambridge - Various	-	-	-	-	-	-	-	-	158	-
New Customer - 1230 Mass Ave Harvard St	-	-	-	-	-	-	-	-	164	-
New Customer - Cambridge Various	-	-	-	-	-	-	-	-	277	-
Overhead Work Order - Cambridge	-	-	-	-	-	-	-	-	33	-
Remove Service - Cambridge	-	-	-	-	-	-	-	-	7	-
Keep Cost Underground/Private Lighting - Cambridge	-	-	-	-	-	-	-	-	(7)	-
Keep Cost Underground - Cambridge	-	-	-	-	-	-	-	-	1	-
Construction Accounting Services	-	-	-	-	-	-	-	39	-	-
Total Distribution Electric Delivery	\$ 2,295	\$ 3,810	\$ 4,461	\$ 3,450	\$ 3,878	\$ 5,528	\$ 5,967	\$ 4,897	\$ 3,664	\$ 5,285
Transmission:										
Alewife Station - Dig Fault Recorder	\$ -	\$ -	\$ -	\$ 51	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Alewife/Prospect Load Island	27	-	-	-	-	-	-	-	-	-
Instrument Upgrade	-	-	-	-	-	-	-	12	-	-
Putnam Station - High Pressure Oil Filler Relay	-	-	-	-	84	-	-	-	-	-
Cable Relaying	-	-	-	-	-	22	-	-	-	-
Station 800 Kendall	-	-	-	-	-	-	-	-	127	-
Total Transmission	\$ 27	\$ -	\$ -	\$ 51	\$ 84	\$ 22	\$ -	\$ 12	\$ 127	\$ -
Capitalized Overheads:	\$ 2,002	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 978	\$ 1,169	\$ 1,037
Total Capital Spending	\$ 4,421	\$ 3,914	\$ 4,569	\$ 3,590	\$ 4,092	\$ 5,657	\$ 6,160	\$ 6,045	\$ 5,025	\$ 6,395
Note:										
* Total Capital Spending for years 1994 through 1999 include both Direct Charges and Indirect Charges by project.										
	1994	\$ 2,123								
	1995	\$ 1,985								
	1996	\$ 1,895								
	1997	\$ 1,731								
	1998	\$ 2,041								
	1999	\$ 2,079								

Cambridge Electric Light Company

Spare Component Acquisition & Inventory Policy and Practice

Year Ending December 31, 2002



Appendix 9

Cambridge Electric Light Company Spare Parts Policy and Practices
March 1, 2003

Cambridge Electric Light Company (“Cambridge” or the “Company”) monitors and manages critical items for its electric transmission system using a state-of-the-art computerized and integrated work management and inventory-control/procurement system. This new system was installed in 1999-2000, and provides for identification of common items needed for Cambridge, as well as the operating systems of all of the NSTAR Companies (i.e., Cambridge, Commonwealth Electric Company, Boston Edison Company and NSTAR Gas Company) (together the “NSTAR Companies”). In addition, Cambridge’s system inventories have been decentralized to bring materials closer to their point of use, decreasing spare-part requirements. Spare part requirements are periodically reviewed and updated by the Company to create efficiencies among and between the NSTAR Companies.

I. Electric Distribution System Spare Parts

The components of Cambridge’s distribution system are, for the most part, lower-cost and high-use items. Inventory levels are based on predicted numbers of: (1) replacements due to failure; (2) replacements due to wear, tear and obsolescence; and (3) new construction needs. Higher-cost, less-frequent turnover items, such as pad-mount switches, transformers, tapping and stopping equipment and regulators, are inventoried based on the same requirements.

In recent years, The NSTAR Companies have formed alliances with vendors of high-use items such as gas parts, distribution transformers, cable and overhead hardware. These alliances have proven very effective in assuring a continuous flow of high-quality components at a controlled price, as well as giving the NSTAR Companies priority treatment for emergency deliveries to cover natural disasters, which have the potential to drastically impact the system.

II. Electric Transmission and Distribution Substation & Gas Take Station Spare Parts

Components at the substation level are much higher in cost, but much lower in number. The turnover of these components and the parts associated with them is also very low. Historically, there was a substantial inventory of substation spare parts, with very high carrying costs. Based on alternative methods for obtaining replacement parts, spare parts inventories were reviewed by Cambridge, and as a result, substantially reduced.

Cambridge has identified the following alternatives to maintaining a substantial inventory of spare parts:

- Establishing relationships with suppliers who maintain inventories of spare parts that can be obtained by Cambridge on very short notice, as described above.

- Utilizing equipment on the Cambridge system, which has been recently replaced or upgraded, for use as spare parts. Because of the large number of Cambridge's ongoing projects, this option would provide a fairly continuous supply of spare parts.
- Maintaining relationships with utilities that utilize similar equipment.
- Employing the use of rebuilding kits.
- Promoting redundancy in design and parallel feeds throughout the Cambridge system to reduce the need for major component inventories.

For large critical components, dedicated spares are kept and replaced as used by Cambridge. Specifically, the Company maintains a mobile transformer and mobile substations that can be placed in service in a very short time for emergency replacement of a major component.

Cambridge Electric Light Company

Poor Performing Circuits

Year Ending December 31, 2002



Appendix 10

2002 – Poor Performing Circuits

Cambridge Electric Light Company					
Circuit ID	Location	Reason(s) for performance	Number of years performed poorly	Steps taken to improve performance	2002 SAIDI
1-301-HE30	Cambridge	In 2002, a majority of the outages on this circuit were due to cable faults and lightning storms.	2	2002 – Infrared survey performed and repairs completed 2002 – Tree trimming completed in December 2003 – Underground/manhole inspections planned	62.33
1-320-AB32	Cambridge	A majority of the outages on this circuit in 2002 were the result of lightning storms.	2	2002 - Circuit received the installation of an underground switch to improve area reliability 2002 – Infrared survey was performed and repairs were made 2003 - Circuit will receive underground/manhole inspections	260.03

Cambridge Electric Light Company

Staffing Levels

Year Ending December 31, 2002



Appendix 11

1997 THROUGH 2002

STAFFING - TRANSMISSION AND DISTRIBUTION OPERATIONS

	1997	1998	1999	2000	2001	2002
Cambridge Electric Light Company						
Union	104	112	73			
Management	38	36	29			
NSTAR Electric & Gas						
Union				2,264	2,272	2,324
Management				919	914	889

Note 1: From 1998 to 1999 and 1999 to 2000 the Company offered a voluntary separation program offered as part of the merger with Commonwealth Energy System. During the period from August 1999 through August 2000, 635 employees from the Boston Edison and Commonwealth Energy System elected to participate in this program and exited the merged company. This was a program that was negotiated with the union leadership. Under the program, approximately 300 union and 335 management employees terminated their employment.

Note 2: With the merger of BEC Energy and Commonwealth Energy System into NSTAR Electric and Gas and resulting consolidation of operations, employees are no longer categorized by or assigned to positions on the basis of the pre-merger operating company designations.

Cambridge Electric Light Company

2003

Performance Benchmarks

Year Ending December 31, 2002



Appendix 12

Cambridge Electric Light Company
2003
Performance Benchmarks

<u>Year</u>	<u>Percent Calls Answered (1)</u>	<u>Percent Service Appt. Met</u>	<u>Percent On-Cycle Meter Reads</u>	<u>Lost Work Day Accidents</u>	<u>SAIDI (2)</u>	<u>SAIFI (2)</u>	<u>Consumer Division Cases</u>	<u>Billing Adjustments</u>
1992				2.17			0.347	0.00
1993				3.58			0.159	2.09
1994				3.84			0.212	0.00
1995				2.81			0.133	21.79
1996				3.24			0.320	11.04
1997	66.17%		99.00%	2.35	62.33	0.540	0.158	23.47
1998	64.26%		97.69%	1.43	66.20	0.712	0.207	1.70
1999	61.55%		98.64%	2.89	40.72	0.815	0.569	3.41
2000	71.16%		98.87%	2.49	37.17	0.498	0.176	11.17
2001	60.26%		98.64%	1.54	37.26	0.659	0.126	0.00
2002	80.24%	100.00%	98.09%					
Mean	67.27%		98.49%	2.63	48.74	0.645	0.241	7.47
Std. Dev.	7.42%		0.50%	0.80	14.31	0.129	0.137	9.03
Max. Penalty	52.43%		97.49%	4.24	77.36	0.902	0.515	25.52
25% Penalty	59.85%		97.99%	3.44	63.05	0.773	0.378	16.50
25% Offset	74.70%		98.99%	1.83	34.42	0.516	0.103	-1.56
Max. Offset	82.12%		99.49%	1.03	20.11	0.387	-0.034	-10.59

Notes (1) Based on 30 second threshold; includes calls abandoned after threshold;

(2) Exclusions based on events affecting 15% of Company.